

ABSTRACT

Imaging apparatus, is provided, comprising a first device, for obtaining a first image, by a first modality, selected from the group consisting of SPECT, PET, CT, an extracorporeal gamma scan, an extracorporeal beta scan, x-rays, an intracorporeal gamma scan, an intracorporeal beta scan, an intravascular gamma scan, an intravascular beta scan, and a combination thereof, and a second device, for obtaining a second, structural image, by a second modality, selected from the group consisting of a three-dimensional ultrasound, an MRI operative by an internal magnetic field, an extracorporeal ultrasound, an extracorporeal MRI operative by an external magnetic field, an intracorporeal ultrasound, an intracorporeal MRI operative by an external magnetic field, an intravascular ultrasound, and a combination thereof, and wherein the apparatus further includes a computerized system, configured to construct an attenuation map, for the first image, based on the second, structural image. Additionally, the computerized system is configured to display an attenuation-corrected first image as well as a superposition of the attenuation-corrected first image and the second, structural image. Furthermore, the apparatus is operative to guide an in-vivo instrument based on the superposition.